DOCUMENT RESUME

ED 153 042 CE 015 744

AUTHOR Cole, Henry P.
TITLE Roles and Contributions of Educational and Counseling Psychology to the Health Care Professions.
PUB DATE Mar 78
NOTE 35p.; Paper presented at the annual meeting of the American Educational Research Association (Toronto, Canada, March 27-31, 1978)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Counseling; Counselor Role; *Counselors; Dental Schools; Doctoral Programs; *Educational Psychology; *Educational Researchers; *Graduate Medical Education; Health Occupations; Medical Schools; Medical Services; Preventive Medicine; *Teacher Educators; Teacher Role

ABSTRACT

A study was conducted to examine the following three roles that education and counseling psychology play in the education of health care providers: the doctoral level educational researcher within dental and medical school; the teacher educator in the allied health professions; and the primary prevention health care counselor. Data were gathered from interviews with twelve staff members at a major university medical center, a comprehensive one-year survey of student enrollments in educational and counseling psychology courses at the same university, and a review of recent literature in dental, medical, nursing, and allied health professions education. The development of each of the three roles was described, including trends, social forces, and legislation. Each role was defined, and the contributions of educational and counseling psychology to these roles were discussed. Finally, suggestions for further areas of research were made, and the changing population of educational and counseling psychology courses and graduate training programs was explored. The study concluded that the role of educational researcher within university medical centers is still a viable option for doctoral level educational psychologists, the role of allied health professions teacher educator has changed the target population of some educational psychology courses at the graduate level, and the role of primary prevention health care counselor may in the future change the target population of selected courses in educational and counseling psychology even further. (Author/EM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED153042

ROLES AND CONTRIBUTIONS OF EDUCATIONAL AND COUNSELING PSYCHOLOGY TO THE HEALTH CARE PROFESSIONS

Henry P. Cole

Department of Educational Psychology and Counseling

College of Education

University of Kentucky

Lexington, Kentucky

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Henry P. Cole

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

SCOPE OF INTEREST NOTICE

The ERIC Facility has assigned this document for processing to: SP CG

In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view.

Paper presented at the Annual Meeting of the American Educational Research Association, March 28, 1978, Toronto, Canada as part of a symposium titled "The Changing Nature of the Target Population of Undergraduate Courses in Educational Psychology". Session number 16.13.

Acknowledgment

The author gratefully acknowledeges the assistance of many administrators, faculty members, and staff in the University of Kentucky Medical Center Colleges of Allied Health Professions, Dentistry, Medicine, Nursing, and Pharmacy. Key persons in all of these Colleges consented to detailed, individual interviews. Much information and current thinking about the interface between educational and counseling psychology and the health sciences was acquired from these sessions. Listing of each person's name and title would be a lengthy process. Therefore, such a list is omitted. Names and titles of persons interviewed are available to those persons who might have an interest in these details. The opinions and interpretations of factual information presented in this paper are those of the author, unless otherwise noted, and may not necessarily be attributed to the University of Kentucky Medical Center or College of Education personnel.

OE 015 744

Table of Contents

Introduction 1

Objective 1

Method and Data Source 1

Results 2

Educational R & D Personnel in Health Professions Education 2

History 2
Role 3
Contributions 4
Summary 6

Teacher Educators in The Allied Health Professions 6

History 6
Roles of Educational Psychologists and other Educators 9
Contributions 15
Summary 17

The Primary Prevention Health Care Counselor 17

Role 17
History 20
Contributions 24
Summary 25

Conclusions 25

References 27

Educational psychologists and educators competent in the knowledge and methods of educational psychology have been employed by medical and dental schools for many years. Their role has been to provide expertise in the design of instruction, the evaluation of student learning, faculty teaching, and program effectiveness as well as the development of selection procedures for the admission of students.

More recently colleges of allied health professions have begun to include educational psychologists and other educators as members of their teaching staffs. These educators, along with colleagues in colleges of education, have been asked to teach registered dental hygienists, physical therapists, medical laboratory technologist, respiratory therapists, and radiologic technologists, among others, the theory, methods, and skills of effective teaching. The graduates of such programs become teachers of their clinical specialty in colleges which train allied health professionals in their clinical specialties.

An emerging trend is the involvement of health care professionals in individual and small group teaching and counseling activities. The thrust of such activity is generally maintenance of health or the prevention of further illness through the education of the client to change lifestyles and behavior patterns which cause or contribute to illness and the loss of health.

OBJECTIVE

It is the purpose of this paper to examine each of these three roles of educational and counseling psychology in the education of health care providers. The development of these roles is briefly explored. The actual and potential contributions of educational psychology and counseling psychology to these roles is discussed. Suggestions for further areas of reasearch are made. The changing target population of educational and counseling psychology courses and graduate training programs is noted. Questions of who will be educated for the emerging role of the primary prevention health counselor and how this education will occur are raised and discussed. Implications are noted for the future of educational and counseling psychology programs.

METHOD AND DATA SOURCES

The findings presented are derived from three sources. The first source of information is interviews from twelve key persons who are administrators and professors in the Colleges of Medicine, Dentistry, Pharmacy, Nursing, and Allied Health Professions at the University of Kentucky Medical Center. The University of Kentucky Medical Center and the five colleges of which it is composed are nationally recognized as being progressive and outstanding in the quality of their educational programs. The Colleges of Allied Health Professions, Dentistry, and Pharmacy have in particular often been rated as among the best two or three programs in the country by various professional groups. Consequently, the nationally recruited faculty in the colleges in the Medical Center at Kentucky

comprise a sample of health care education units which, while of recent origin,[1] represent much of the current practice and thinking at the frontier of education for health care providers.

The second source of information is from a review of the recent literature in medical, dental, nursing, and allied health professions education. Journals in each of these and related fields were searched and examined concerning the involvement of educational and counseling psychology in the preparation of health care providers and the delivery of health care services.

A third and more limited source of information is data on the actual enrollment of students from the University of Kentucky College of Allied Health Professions in courses in educational psychology and counseling psychology during the 1977-1978 academic year in the Department of Educational Psychology and Counseling, College of Education.

The information derived from each of these sources is integrated in the discussion in each section in the remainder of this paper.

RESULTS

The results are presented for each of three roles in which educational and counseling psychologists have been involved in the education of health care providers. Trends, social forces, and legislation which led to the involvement are noted. Each role is defined. Examples and contributions of the roles are provided based on published articles in the literature.

Educational R&D Personnel in Health Professions Education

The traditional role of the educational psychologist in health professions schools has existed for a number of years and is best defined in medical and dental colleges.

History

Much of the reform in medical and dental education began in the early 1950ies at Case Western Reserve University and similar institutions where the traditional lock-step curriculum was replaced by a more flexible program stressing interdisciplinary studies of biomedical sciences and clinical courses along with the utilization of instructional technology (Cooper, 1973).
In the early 1960ies the interest of the public and Congress turned to extending and expanding health care for the general population. The Health Professions Educational Assistance Act of 1963 and its subsequent extension via several ammendments through 1968 was the first large source of funds for the employment

---

[1] Classes began in medicine and nursing in 1960 and dentistry in 1962. The College of Pharmacy moved to the University of Kentucky from Louisville in 1957 and became part of the Medical Center in 1966. The University Hospital opened in 1962, and became part of the Medical Center. The College of Allied Health Professions began in 1966. (University of Kentucky Bulletin, College of Allied Health Professions, 1977, 69 (1), pp. 2-3)

of educators and educational psychologists in curriculum research, development, and evaluation activities in the education of health professionals including physician, dentists, nurses, pharmacists, veternarians, and allied health professionals. The Health Manpower Act of 1968 and the later Comprehensive Health Manpower Training Act of 1971 made specific provision for the improvement of curriculum and instruction in health professions schools (Grupenhof & Strickland, 1972, Chapters 1 & 2). In the decade from 1965 to 1975 the Public Health Service, Health Resource Administration spent $4.6 billion dollars on its health manpower programs. It is estimated that private foundations and State government spent an additional and equal amount in this same period on these programs. These figures exclude the funds expended for biomedical research and psychiatric manpower (Cooper, 1976).

Much of this money was used for the construction and rennovation of physical facilities such as classrooms, teaching clinics, libraries, and teaching laboratories Other money was used to expand the teaching faculty in clinical and biomedical science areas. Public Health Service funds paid for a large part of the construction of 21 new medical schools, 8 new dental schools, and the rennovation or construction of 215 new nursing schools during this decade (Cooper, 1976). It was from the stimulation of these funds that educational psychology and instructional technology began to by incorporated into the training of health professionals on a large scale, especially in medicine and dentistry.

Role

The role of the educational psychologist within medical, dental and other health professions schools is usually as an ancillary and supporting member of the instructional staff. Typical functions of the educational psychologist include assisting the teaching staff in the improvement of clinical, laboratory, and diadatic classroom instruction through the application of instructional technology and the operation of faculty development workshops and training programs. Other frequent duties include the improvement of testing and evaluation methods used to assess student learning, the development and improvement of selection and screening procedures for the admission of students, and the evaluation of learning outcomes and program effectiveness. Frequently persons in these roles have titles such as Assistant Dean for Educational Development, Coordinator for Learning Resources, Director, Office of Planning, Development and Evaluation, or some similar title which indicates the non-departmental and general service role of the position.

These types of roles in educational research and development activities are not restricted to persons in educational psychology. Many of these positions are held by doctoral level persons with degrees in higher education, educational administration, curriculum and instruction, and vocational education. However, when these persons hold such positions it is in large part because they have educational research skills and knowledge usually considered as part of the domain of educational psychology. A survey of 55 of the 57 accredited dental schools in the United States indicates that the best qualifications for such positions are training in conventional educational research methodology with emphasis upon learning, cognition, instruction, research design, measurement and statistical analysis. All of these areas were seen as important or imperative by a large majority of the administrators of dental schools who hire such persons (Jacobs & Zullo, 1975, p. 788). At the time of the survey about half of the nation's dental schools had one or more persons performing the traditional role of the educational psychologist. Administrators in the remaining schools

expressed interest in obtaining such persons.

Although a similar study for medical schools was not located, a review of the Journal of Medical Education for recent years makes it clear that many similar and probably an equal or greater number of roles exist in colleges of medicine for persons trained at the doctoral level in educational psychology. This is apparent from the large number of authorships of articles by Ed.D.s and Ph.D.s in education and educational research. It is also apparent from the content of many articles which deal with curriculum development, evaluation, testing, studies of faculty and program effectiveness and related matters using the concepts and methods of educational psychology. This same pattern is evident in the Journal of Dental Education and the Journal of Allied Health and Nursing Research journals. Clearly, there are many educational psychologists working in supportive roles in health professions schools and their continues to be a demand for these positions.

In the last five years, three of the total 13 Ph.D. educational psychology graduates have taken positions in medical centers after graduation from the University of Kentucky, Department of Educational Psychology and Counseling. In addition, about 6 of the 13 were supported during graduate school by working as educational psychologists on various projects in the health professions schools at the University of Kentucky (Cole, Liddle, & Peritt, 1977, pp. 63-65).

Examination of the literature indicates that educational psychologists and other educators in the health professions are generally not involved in teaching formal courses to dental, medical, and pharmacy students. Frequently students in these programs do complete formal courses in human development, learning, behavior, personality, statistics and social behavorial science and research methods. However, these courses are usually offered through a department of behavioral sciences and the courses are usually taught by clinical psychologists, sociologists, anthropologists, and psychiatrists (Hartings & Counte, 1977; Peterson, 1973). Such courses tend to be designed to present students with a broad understanding of the social behavioral sciences as they relate to health, human development and practioner-client interaction in the clinical setting. There is little or no focus on teaching, counseling, or instruction. Much attention is given the development of the clinical interview to take a patient's medical history and in the area of dental education, much attention is given to the effective management of dental auxiliaries (assistants) and patients through positive human relationship and behavior modification procedures (Bowden & Martin, 1975; Fox, 1977).

Contributions

Examples of the application of educational psychology theories and methods in the health care professions literature are very common and generally these fall into two types. The first type, already discussed, concerns applications to curriculum development, course and program evaluation, improvement of testing, instruction, and student selection procedures. The focus of such efforts is on the improvement of the instruction of health professional students, a primary goal of the legislation which has funded such activity. The second type of application involves the application of educational psychology theory and methods by clinicians in the "teaching" of patients ways to change their behavior.

Examples of the first type of application include studies of the development and effectiveness of individualized and computer assisted instruction in dental education (Smith, Rovin, & Haley, 1973), the use of Gagne's conditions of learning

and cumulative learning hierarchies in the design and validation of effective courses in physical therapy (Payton, 1973), dental hygiene, nursing, and medical laboratory technology. An example from medical education is the application of principles of student centered teaching, individualization of instruction, and confluent education to the design and operation of a course in human pathology (Helder, Verbraugh, & deVries, 1977). Another example is the application of principles of affective learning by faculty (signal learning responses in Gagne's terms) in combination with the teaching of problem solving skills to assist failing minority students to improve their academic performance in basic science and clinical course in medical school (Geertsma, 1977).

Although many of these articles are published by educators and educational psychologists, they are frequently coauthored or individually authored by dentists, nurses, physicians or other health professional clinical specialists. It is likely that these health care educators learned much of their educational psychology from workshops and contact with the resident educator. In dental education this is the most common andpreferred mode by which dentists are instructed in matters of educational theory and method (Saroff, 1975). A similar pattern probably exists in the other health professions educators areas.

Examples of the application of educational psychology principles and methods to the "teaching" of patients by medical staff are also common, with nurses perhaps playing the largest role in this area. Examples from the nursing field include an article by Friedland (1976) in which an individualized instruction program is described for an 11 year old diabetic boy. Friedland, unhappy with the usual method of rote instruction of young patients in the matters of urine reduction tests for glucose and acetone; and the interpretation of these values, the preparation and injection of insulin, and diatary regulation, developed an instructional approach based on theories of Piaget, Ausubel, and Erikson. Her goal was to teach the child the abstract relationships of metabolism which make for meaningful understanding of the self care methods. By using knowledge of child development and cognition and carefully arranging her instruction, she was successful. Her events of instruction followed those of Gagne and Briggs (1974), although she makes no reference to this system. Another article by Krall (1976) describes the application of Mager's instructional objectives and goal analysis approaches to the writing of mental health treatment plans by psychiatric nurses and other psychiatric staff to "teach" patients to become well or at least more healthy. Still another article by Rottkamp (1976) describes the application of behavior modification procedures to nursing therapeutics in body positioning of spinal cord-injured patients in an experimental study. Behavior modification proved to be a superior method of instruction for these patients compared to the traditional methods of patient instruction.

No study was identified which reviewed and evaluated the effectiveness of educational psychology applications to the improvement of health professional schools' curriculum and instructional procedures. No similar review was found for the application of similar methods to the "teaching" of patients by clinical medical staff. However, in both areas, many of the studies reported were designed with control groups and appropriate outcome measures. It should be possible to carry out meta-analysis procedure similar to that used by Smith and Glass (1977) in their careful study of the effectiveness of psychotherapy based on some 375 experimental studies. The results of such a study would help document the value of the contribution of educational psychology applications in the

health care field and should be of interest to medical center administrators, legislators, and the public who have paid the bill for such activity.

In summary, it appears as if the traditional role of educational psychologists in the education of health care professionals in providing expertise in matters of curriculum development, evaluation, and educational research to the faculty of professional schools remains a valued and viable career option. It also appears that the teaching of patients new behavior patterns, especially by nurses in primary care situations, currently incorporates at least some of the modern principles of applied learning theory usually associated with educational psychology and instructional methods.[2]

Teacher Educators in the Allied Health Professions

A newer role for educational psychologists and other educators is the teaching of allied health professionals to become teachers in colleges of allied health in the various clinical specialties. The educators involved in this activity are located in colleges of allied health as members of the instructional staff. Other educators are involved in colleges of education where allied health professionals, who are already registered or licensed in their clinical specialty, are enrolled to complete studies in educational psychology and instructional methods. When they have completed such a program, students graduate with a baccalaureate or master's degree in education. The basic structure of such programs is shown in Figure 1.

History

The health manpower legislation reviewed in the previous section also was the stimulus for the development of colleges of allied health professions and the improvement of the education of these professionals. The Allied Health Professions Personnel Training Act of 1966 provided for construction and institutional special project grants. In the latter area, specific provision was made for the preparation of teachers in allied health professions with formal courses in educational methods and techniques (Grupenhoff & Strickland, 1972; Jones, 1967, page 2). Also supported were the development of interdisciplinary heath personnel education centers in university settings, programs designed to help physicians and dentists use auxiliary health care personnel, regional and state wide planning for the development of cooperative educational programs for allied health personnel in university medical centers, junior and senior colleges, and health care centers such as community hospitals.

With some exceptions, the social forces which led to this development were much the same as those described earlier with respect to the training of physicians, dentists, veterinarians,pharmacists, and nurses. The term "allied health professional" was coined in 1965 by persons in the Public Health Service, Bureau of Health Manpower.[3]

---

[2]Many of the nurses who publish such articles have a master's or doctoral degree in education. The degrees and areas of expertise are routinely listed in many of the health professions education journals.

[3]Personal communication from Dr. Joseph Hamburg, Dean, College of Allied Health Professions, University of Kentucky, Lexington.

FIGURE 1*

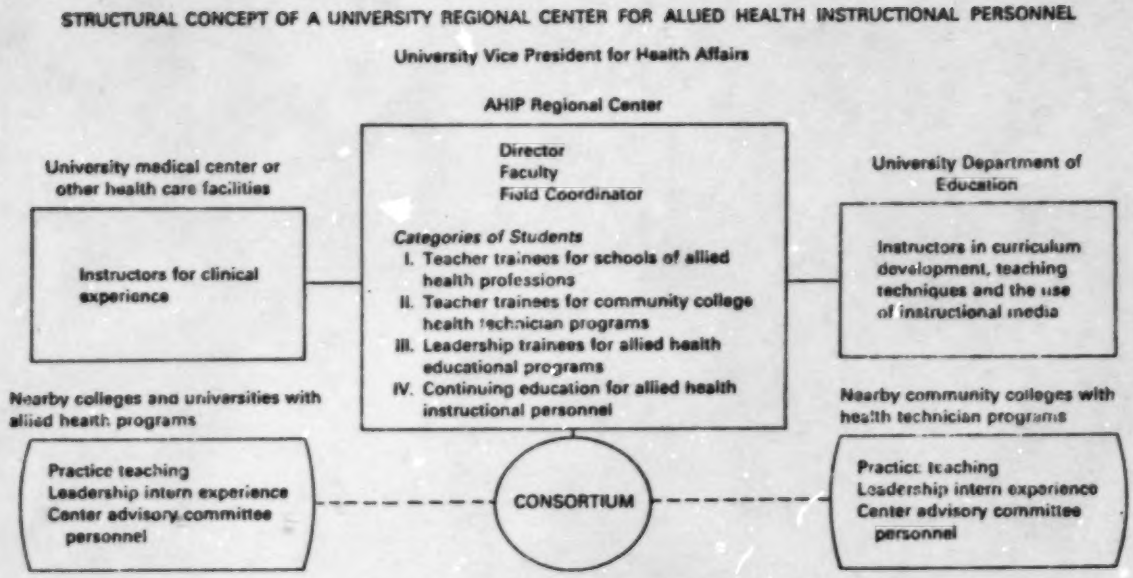
STRUCTURAL CONCEPT OF A UNIVERSITY REGIONAL CENTER FOR ALLIED HEALTH INSTRUCTIONAL PERSONNEL
University Vice President for Health Affairs
AHIP Regional Center
Director
Faculty
Field Coordinator
Categories of Students
I. Teacher trainees for schools of allied health professions
II. Teacher trainees for community college health technician programs
III. Leadership trainees for allied health educational programs
IV. Continuing education for allied health instructional personnel
University medical center or other health care facilities
Instructors for clinical experience
University Department of Education
Instructors in curriculum development, teaching techniques and the use of instructional media
Nearby colleges and universities with allied health programs
Practice teaching
Leadership intern experience
Center advisory committee personnel
CONSORTIUM
Nearby community colleges with health technician programs
Practice teaching
Leadership intern experience
Center advisory committee personnel

FIGURE 1. Setting necessary for development of an AHIP Center. *Primary educational setting necessary:* university medical centers with a commitment both to the importance of education for the allied health field and to the need for development of an educational system for preparation of instructors to function at several educational levels. *Combined educational resources necessary:* a medical center clinical staff willing to accept the objectives of the teacher preparation program and to provide the required clinical experiences for trainees. A university department of education willing to accept objectives of the teacher preparation program and to provide instruction in curriculum development, teaching techniques and the use of instructional media. Nearby four-year colleges, community junior colleges, and other educational institutions offering allied health programs and willing to provide settings for practice teaching and leadership internship experiences for trainees.

*Figure reproduced from Action Programs for Developing Allied Health Educators, Battle Creek, Michigan 49016: The W.K. Kellogg Foundation, October 1977, page viii.

The intention was to convey the necessity for the preparation of many additional technical health care providers who would extend the services of physicans, dentists, and nurses and, in doing so, increase the quality and availability of health care in the United States. Large geographic maldistributions in the quality and availablility of health care had been documented. Even larger maldistribution of health care personnel in terms of level of training were apparent. In 1967 the large majority of the 2.5 million health occupations workers were trained either at the doctoral level or at the one to three year post high school level. The first group was overtrained and the second group undertrained with respect to many medical services which needed to be performed. Few persons were trained in technical skills and services at intermediate levels. (See figure 2).

FIGURE 2*

THE MEDICAL SERVICES PYRAMID IN 1967*

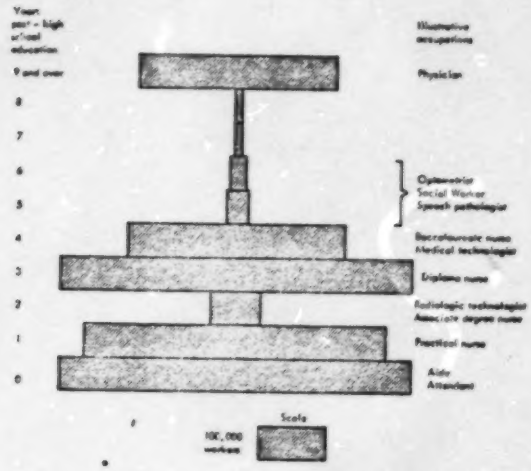

*Figure reproduced from Jones, B., Chairman, Education for the Allied Health Professions and Services, Report of the Allied Health Professions Education Subcommittee of the National Advisory Health Council. Washington, D.C.: United States Government Printing Office, P.H.S. Publication # 1600, 1967, p. 13.

In addition, the training of allied health professionals, which included medical laboratory technologists, medical records personnel, dental hygienist, radiologic technologists, respiratory therapists, physical therapists and many more persons, was often haphazard and uncoordinated. Many persons in these areas were trained in hospital programs which were not connnected with universities or colleges. Others were ttained within university medical centers but without any permanent or full time faculty or single organized unit to develop and supervise the training program. Still others were trained by a variety of private and community technical and vocational colleges. Rapid advances in medical technology were also causing many physicians in hospitals and medical centers to train nurses and others in technical specialties. Many of these specialists were seeking their own registration or certification and attempting to develop their own training programs. There was little attempt to try to integrate and provide a core training program for allied health professionals within some comprehensive interdisciplinary higher education setting (Kinsinger, 1973). It was these problems which the funds appropriated to the education of allied health professions were expected to solve (DuVal, 1972; Hatch, 1972; Holland, Knobel, & Parrish, 1976; Jones, 1967).

By 1967 sixteen universities with medical centers had developed or were in the process of developing colleges of allied health professions (Jones, 1967, p. 15). The University of Kentucky was one of these. Its College of Allied Health Professions Dean, Joseph Hamburg, was a charter member and later president in 1969 and 1970 of the Association of Schools of Allied Health Professions formed in 1968 by the Deans of thirteen similar colleges (Hamburg, 1977, p. 186). This organization later changed its name to the American Society of Allied Health Professions. Its membership has grown from the original 13 colleges to the present 140 members and there are approximately two to three hundred colleges with clustered and interdisciplinary allied health professions programs.[4]

In 1969 the Dean of the College of Allied Health Professions contacted the Dean of the College of Education at the University of Kentucky and requested collaboration in the training of allied health professions educators at the baccalaureate and master's degree level. In 1970 and 1971 the W. K. Kellogg Foundation began a program of grant support for the University of Kentucky, College of Allied Health Professions to develop an active program of faculty development for allied health educators. Kentucky was the first of seven similar centers which had the mission illustrated in Figure 1. Consequently, although Kentucky has been a leader in this area, it represents an interesting case study and is, perhaps, indicative of a trend which may become more widespread in the future.

Roles of Educational Psychologists and Other Educators

The traditional role of the educational R & D specialist as has been practiced within colleges of medicine and dentistry also exists within colleges of allied health professions. In these newer colleges roles are also filled by a variety of educators who have competence in educational research, evaluation,

---

[4]Personal communication to the author by Dr. Joseph Hamburg.

statistical analysis, and instructional product development. However, there are some important differences.

Many of the educators who work in colleges of allied health professions have a degree and registration in a clinical specialty as well as an advanced degree in education, usually at the master's level and sometimes through the doctoral level. These persons are usually graduates of departments of curriculum and instruction, educational psychology, higher and alult education, vocational and technical education, and sometimes educational administration. Their roles in centers for the instruction of allied health personnel involve the preparation of instructional materials, the planning, development and evaluation of courses and programs of study in clinical, didactic, and laboratory courses in the technical specialty areas, as well as similar development of instruction concerned with how to teach and evaluate students in all of these setting. These persons also supervise students in practicum and student teaching situations where the clinical, laboratory, and classroom teaching skills are practiced by the students prior to their program completion. In addition, these faculty persons are usually involved in developing and operating continuing education programs for other allied health professions teachers in community colleges and other training sites for allied health care professionals in the region.

Most of these faculty have had a good bit of basic educational psychology course work and curriculum and instruction methodology in their own preparation. Similar courses are required of the students enrolled in their degree programs in the college and similar knowledge and skills are taught and demonstrated in the continuing education programs which are operated for area community college and technical school educators where many allied health personnel continue to be trained (Kerr, 1977).

Other educators without allied health professions backgrounds who are specialists in instructional product development, teaching methodology, testing and measurement, curriculum evaluation and related areas also work in such colleges as faculty members and sometimes supervise students in practicum situations in clinical, laboratory, and classroom teaching.

This is quite a different role than the educator and educational psychologist play in the typical medical or dental school. In the latter case, educators serve primarily as ancillary and support staff to the dental or medical school faculty and are seldom involved in the teaching and supervision of students. In addition, the educators involved in medical and dental schools seldom have training in a clinical or basic health science area, although such training in addition to the educational psychology and research skills is highly valued and sought after by college administrators seeking to fill such positions (Jacobs & Zullo, 1975). Of course another difference is the mission of the different colleges. Medical and dental schools, as well as traditional allied health professions training programs, have as their sole teaching focus the training of clinical practioners and <u>not</u> of educators of practioners. The university interdisciplinary college of clustered allied health professions has added this new role of the preparation of allied health teachers in addition to the usual clinical preparation of health care providers. This is in keeping with the intent of the federal funds and Kellogg grants which have been used to develop such programs at Kentucky and numerous other sites around the country (Action Programs for Developing Allied Health Educators, 1977; Annual Report, Kellog Foundation, 1974).

In many respects the role of the educational psychologist and the educator involved in these teacher education programs for allied health personnel have not changed as much as the settings in which these persons work, the students they teach, and the nature of the instructional applications with which they deal. Educators and educational psychologists who have remained in colleges of education have also been affected by these developments since, at some universities, a significant proportion of the students enrolled in certain of their courses now come from allied health education programs.

Using the University of Kentucky as one example of such a setting illustrates the changing target population of courses such as general educational psychology, educational tests and measurement, human development and behavior, introduction to counseling, instructional product development, clinical and classroom teaching methods, and educational statistics. The data which follow are based upon interviews with Kentucky College of Allied Health faculty, examination of official records, and a systematic survey by a detailed questionnaire administered to students in all courses in the Department of Educational Psychology and Counseling during the fall 1977 and spring 1978 semesters.

In conjunction with the College of Education, the College of Allied Health Professions at the University of Kentucky offers the B.H.S. or M.S. degree to students who have already completed either an A.A. or B.S. degree and have obtained appropriate registration in their health care specialty from a professional or state society. At Kentucky these students include persons in clinical nutrition, physical therapy, dental hygiene, medical laboratory technology, respiratory therapy, radiologic technology, clinical pastoral counseling and other areas. The Ed.D and Ph.D. degree may also be earned in education in joint programs of study with the Colleges of Allied Health and Education. The Departments of Higher and Adult Education, Educational Psychology and Counseling, and Curriculum and Instruction are involved in these degree programs for allied health educators.

Over the past three years approximately twenty students have been enrolled in the B.H.S. program and another 20 in the M.S. program in allied health education programs for a total of about 40 persons each year. The persons in the B.H.S. program complete the same course of study as the M.S. students with the addition of any general studies courses and clinical specialty courses they need in order to meet graduation requirements. Both groups complete approximately the same amount of work in educational psychology and teaching method courses. Students enrolled in the Department of Educational Psychology program at the master's level must complete a minimum of 18 semester hours of course work in that department. Other students enrolled in other options complete an average of 9 to 12 semester hours of study in educational psychology courses. All students are required to take the Department of Curriculum and Instruction's Clinical and Laboratory Teaching methods course and the Teaching Internship in their clinical specialty. None of these students seeks certification as a teacher. All seek functional knowledge and skill related to effective teaching. Collectively these students represent a significant addition to the enrollment of selected courses in these departments.

An introductory graduate level course in human development and behavior recently taught by the author had an enrollment of 31 persons. Of these, six were in allied health educators M.S. programs and three were nurses. About 29

percent of the course enrollment was from persons in the health care professions seeking to become educators in their health science specialty. This is a common pattern at Kentucky. Data for the 1977-78 academic year show that selected courses at the upper undergraduate and beginning graduate level have become composed largely of persons other than the traditional elementary and secondary school teacher population. Table I presents the enrollments of students by areas in multiple sections of two courses which illustrate this pattern. Many of the students enrolled are seeking registration in areas other than traditional education certification areas. Others are already registered in areas of professional health care services. The majority of persons are already or planning to be involved in teaching careers outside of the usual roles in elementary and secondary schools. The large number of undergraduate home economics students routinely enrolled in the general educational psychology courses are not those persons in home economics education who plan to teach in public schools. Rather, they are enrolled in a nutrition program very similar to the clinical nutrition program in the College of Allied Health Professions. Upon graduation they seek registration in the American Dietetics Association by examination and approved programs of study. After graduation they work as nutritionists in a wide variety of non-school institutions.

Data from other courses at Kentucky show similar patterns. The EDP 605 Introduction to Counseling course for the 1977-78 academic year has a total enrollment of 69 students, with 84% of them being graduate students usually at the beginning of their programs. The other 16% are advanced undergraduates about to enter graduate programs in the helping professions. Only 55% of these students are enrolled in regular programs in the College of Education. Of those enrolled in education, about 38% are students in the Department of Educational Psychology and Counseling. The majority of these, some 29% of the total course enrollment, are in the community counseling program. Upon graduation these students will seek certification as counseling psychologists from the state board of psychology. They will seek employment in a wide variety of mental health care and community counseling agencies. Only 4 of the total 69 students are enrolled in the elementary and secondary guidance counseling program which leads to certification for public school employment.

About 16% of the total enrollment is from other education departments within the College of Education. A full 45% of the total enrollment in this course consists of students from the allied health professions (5.8%), social work (7.25%), home economics, human development and family counseling (10.14%), and other areas including arts and sciences, fine arts, commerce, nursing, and other colleges (13.04%).[5]

All courses in educational psychology at the University of Kentucky were surveyed via a standard questionnaire during the 1977-78 academic year.

---

[5]All percentages in the text were calculated by dividing the number of students in each category by the total enrollment across all sections.

TABLE 1

STUDENT ENROLLMENT BY COLLEGE AND DEPARTMENT IN TWO EDUCATIONAL PSYCHOLOGY COURSES, 1977-78

EDP 522 Educational Tests and Measurement

Area	n	%	% by Area
Education	40	71.43	
Educational Psychology	13	23.21	
Guidance Counseling*	5	8.93	
Community Counseling**	6	10.71	
School Psychology*	1	1.79	
Educational Psychology	1	1.79	
Curriculum and Instruction	17	30.36	71.43 Education
Elementary Education*	9	16.07	
Secondary Education*	8	14.29	
Educational Administration*	1	3.57	
Special Education*	7	12.50	
Higher Education	1	1.79	
Allied Health Professions+	14	25.00	25.00 A.H.P.
Arts and Sciences	2	3.57	3.57 Other
Totals	56		100.00

EDP 548 General Educational Psychology

Area	n	%	% by Area
Education	12	25.53	
Educational Psychology	6	12.77	
Guidance Counseling*	1	2.13	
Community Counseling**	1	2.13	
Curriculum and Instruction	6	12.77	25.53 Education
Elementary Education*	3	6.38	
Secondary Education*	3	6.38	
Allied Health Professions+	6	12.77	12.77 A.H.P.
Home Economics	21	44.68	
Nutrition**	20	42.55	44.69 H.E.
Family Counseling**	1	2.13	
Arts and Sciences	4	8.51	
Commerce	1	2.13	
Fine Arts	1	2.13	17.02 Other
Social Professions**	1	2.13	
Unclassified Graduate	1	2.13	
Totals	47		100.00

* Students seeking traditional certification in education

**Students seeking certification or licensure in areas other than education such as registered dietician, counseling psychologist, family counselor etc.

+Students already holding professional registration in an allied health professional specialty.

Examination of this data makes it clear that the traditional audience of future teachers has not changed for the introductory undergraduate courses in educational psychology which are required for teacher certification. The course enrollment data for the two required introductory courses are shown in Table 2.

TABLE 2

ENROLLMENT DATA FOR TWO UNDERGRADUATE EDUCATIONAL PSYCHOLOGY COURSES REQUIRED FOR TEACHER CERTIFICATION*

Course	Sem.	n	Req.	Elc.	Level		Edu. Cert.	Non Edu. Cert.
					El.	Sec.		
Human Development and Learning	F	242	235	8	122	105	227	14
	S	180	165	14	83	82	166	14
Psychology of Teaching	F	89	84	5	51	36	87	2
	S	160	157	3	95	60	156	4
1977-78 Totals		671	641	30	351	283	636	34
Frequency %		100	95.5	4.5	52.3	42.2	94.8	5.1

* Abbreviations are as follows: Sem. = semester, Req. = required course, Elc. = elective course, El. = elementary teacher preparation, Sec. = secondary teacher preparation, Edu. Cert. = seeking traditional certification as a teacher.

Examination of similar data for advanced graduate courses indicates that these courses are taken mainly by doctoral and master degree students enrolled in educational and counseling psychology courses with a moderate number of persons from other education departments and other helping professions, particularly College of Social Professions MSW candidates and MS candidates from Home Economics, particularly in the human development and family counseling options. However, more than half of the doctoral candidates in the Educational Psychology and Counseling programs have come from non-educational backgrounds including nursing, social work, general, experimental, and clinical psychology, allied health professions, theology and the ministry, and other helping professions areas. Most of these persons have master's or more advanced degrees in these fields and most have work in excess of three years in their professional area prior to entry into the doctoral program (Cole, Liddle, & Peritt, 1977). This is particularly true of students enrolled in the counseling psychology program option, and less true for persons enrolled in the educational psychology

research and evaluation and school psychology options.

It is clear that allied health teacher preparation programs have impacted primarily upon the upper level undergraduate and introductory graduate courses in educational and counseling psychology.

Contributions

It is difficult to assess the contribution of educational psychology to the training of health care professionals in the allied health fields. Approximately 500 students have been graduated from the seven Allied Health Instructional Personnel Centers funded by the Kellogg Foundation since 1972 (Buchen & Tiedemann, 1977). Presumably an equal or greater number of persons may have been graduated from similar programs funded by federal grants and state monies at other universities. Clearly, many of the basic ideas, methods, and the educational and instructional technology which has developed from the application of psychology to instruction has been widely instructed and disseminated to administrators and teachers of allied health professions students. There was a general concensus among the persons interviewedin this study, that this activity has produced some lasting impact, particularly on the expectations and standards for curriculum content and the quality of instruction among university faculty and adminstration, professional societies, and professional licensing or registry groups. There was also a general consensus that this type of extended training of allied health professionals to be effective teachers and to develop stronger interdisciplinary programs in the technical content of their clincial disciplines was far from being institutionalized and that most such activity would cease in the absence of extramural funds by which it is presently supported.

No studies on the effects of the intervention of educational technology into allied health professional training programs were identified. The literature in this area contains few, if any, controlled experimental studies of the effectiveness of various instructional innovations or the effectiveness of allied health educators. This is in part due to the recency of the effort. It is also, perhaps, because some of these studies, particularly those concerned with the effectiveness of different types of educational technology applications, are common in the nursing, dental, and medical education literature.

Careful studies examining the curriculum structure, content, organization, and methods of instruction and student learning outcomes across samples of traditional and newer centers for allied health professions training programs would be helpful. Given an adequate number of such studies it may be possible to conduct a meta-analysis by which it might become possible to make inferences about the contribution of educational technology, educational psychology, and teaching methods, as used by allied health educators in their training programs. It may be that this educational theory and technology will be more meaningfully and widely applied in allied health than in dental and medical education because those persons who are educational specialists in this new field are also technical specialists in their respective basic science and clinical area.

Another area worthy of study concerns the motivations of allied health professionals who seek to become allied health educators with special expertise in instructional methodology, educational psychology, and educational research, development, and evaluation. Certainly one motivation is to become an effective teacher of one's professional discipline area. Undoubtedly, another is to

become competative in the expanding market for teachers of allied health professionals in private and community colleges and universities. There may be, however, another and equally as salient motivation related to feelings of personal competence, esteem, and career satisfaction.

A theme which runs through the literature of nurses, allied health professionals, and others who provide health care services, is the needless and frustrating limitations placed on persons in these areas by laws and regulations established by the professional societies of psychiatrists, other physicians, dentists, and clinical psychologists (Bessmer, 1977; Kieslar, 1977; Pellegrino, 1974; Smith, 1976; Terris, 1973). The federal legislation which produced the health manpower programs had as a specific objective the increasing of the amount of direct patient care and the technical level of that care by persons such as nurse practioners, physicians assistants, dental hygienists and many other health care providers. The intent was to broaden the range of services which such persons could provide patients in primary care settings to increase the quantity and quality of health care. Many programs in dental and medical education have been funded for the purpose of training health care delivery teams made up of doctoral level staff with a group of lesser trained auxiliaries. Many training programs in the allied health and other health care professions have broadened the training of their students. For example, dental hygienists have been taught nonreversible restorative dentistry (drilling and filling teeth), nurses practitioners the diagnosis and treatment of disease and illness in the absence of a physician but with a general protocol, and nurse midwives the prenatal, obstetric, and post natal care of mothers and infants without the intervention of a physician unless there is some difficulty. Furthermore, many studies have shown that these health care professionals, when graduated from responsible programs, perform these extended roles as well or better than their physician and dentist counterparts (Chandler, 1976; Davis & Underwood, 1976; McCally, Sorem, & Silverman, 1977; Myers, 1973; Perry, 1977).

Yet, traditions and laws change slowly, particularly when powerful forces with strong interests in protecting their private practice areas are involved. Consequently, many of the more recently trained expanded duty health professionals are not allowed to practice their skills. The exception to this seems to be in poor and isolated rural areas in the United States and in similar situations in other countries. Here, in the absence of medical centers and physicians, dentists, and clinical psychologists, health care services are provided by others in many instances.

It may be that a strong motivation for many nurses and allied health professionals in seeking advanced degrees in education and related social behavioral science areas is to increase the level of responsibility and status that may be achieved where further advancement in their technical area is not possible because of traditional restrictions. It may also be that there is a trend for these health care providers to do much of the teaching and counseling of individuals which is necessary for adequate health care. This teaching and counseling is performed to only a very small degree by psychiatrists, other physicians, dentists, and clinical psychologists. All of these groups tend to be involved either in 1) private practice where efficient use of time in curative medicine skills rather than extensive individual teaching and counseling are the priority, or 2) clinical teaching and research at major universities and medical centers where again little priority or time is available for the teaching and counseling of the common person, especially in health maintenance matters. The exception to

this general pattern is the increased interest and practice of general family and community health care, fostered in part by the Health Maintenance Organizations.

Studies of career history, satisfaction, and motivations of allied health professionals and related health care providers would be interesting. These studies might also be useful in planning for a group of more broadly trained health care providers who would offer a greater range of curative and preventive health care services.

In summary, at Kentucky and some other universities, many allied health educators have become involved in the formal study and application of the psychology of instruction and learning to the development and teaching of the technical content in their respective disciplines. Little research has been done on either the effectiveness of this application of educational psychology and educational technology or about the motivations and patterns of career development exhibited by these persons.

The Primary Prevention Health Care Counselor

The current public health, nursing, family medical practice, allied health, counseling psychology, medical, and dental literature contains many articles and much thinking about the need to educate and counsel healthy children and adults in proper habits of health maintenance. Frequent reference is made to the early education and alteration of individual behavior patterns and life styles which are known to be destructive to the quality of health and increase risk of illness and death. Areas frequently cited as being in critical need as the focus of individual, family, and community education and counseling efforts include proper dietary habits, the prevention and control of obesity, smoking, excessive use of alcohol and other drugs, undue stress, maladaptive methods of parenting and child rearing, and maladaptive exercise, work, and recreation attitudes and habits. Other areas such as the development of self advocacy skills for one's family and self, the development of informed consumerism, sound financial planning, and planned parenthood are frequently mentioned. Frequent reference is made to the use of "behavior modification" and "motivational" techniques to alter faulty or destructive behavior patterns and life styles of individuals. Particular well written articles with this type of emphasis include Pellegrino, 1974; Jaques and Perry, 1974; Terris, 1973; Hamburg, D.A., 1977; Holland, Knobel, and Parrish, 1976; Ivey, 1976 to name only a few.

Role

The role of such helpers is clearly a teaching and counseling one. (Gazda, G. M., Walters, R. P., & Childers, W. C., 1973). It is perhaps best described by Ivey (1976). Rather than the traditional medical model approach which focuses upon diagnosis of illness, prescription, therapy, and cure, the counseling model adopts a different approach. This includes teaching for client awareness, identifying client ambition or dissatisfaction, helping the client set goals, teaching the client skills needed to achieve goals, and helping the client evaluate and monitor his or her progress toward these goals and derive satisfaction from doing so. In the case of health maintenance, these goals have to do with approaching the more constructive life styles and habits cited in the previous paragraph. This role of the counseling psychologist is recognized as being different from clinical psychology in a number of important ways. Super (1977) who is both a clinical and a counseling psychologist summarizes the differences

nicely. He says the differences are "between education and medicine", "between developmental and remedial help", "between pathology and hygieology". He goes on to say,

> "Clinical psychologists tend to look for what is wrong and how to treat it, while counseling psychologist tend to look for what is right and how to help use it." (Super, 1977, p.14).

At the present time psychiatrists, other physicians, dentists, and clinical psychologists do not usually perform this basic counseling role. Rather, all of these categories of persons are highly technically trained with strong emphasis upon curative medicine, nearly all of them work in either major medical and research centers or in private practice where the focus is on basic medical research, professional training, and the curing of ill persons. Even private practice by clinical psychologists is largely curative and follows the medical model rather than being educative and developmentally oriented (Albee & Joffe, 1977; Gordon, 1977). Trends in the education of clinical psychologists appear to be even more in the direction of basic clinical research in medical centers, explanation, diagnosis, and treatment of psychopathology, and much less toward preventive education and counseling functions with individuals and groups (Feuerstein, 1977; Matarazzo, Lubin, & Nathan, 1978). Furthermore, all four groups have powerful professional organizations which have strong vested interests in the economics of private practice. These organizations seek and often successfully limit the practice of health care, even in the primary prevention area in which they themselves do not perform and are not likely to do so in the future. There has been great reluctance to teach or allow others to practice the skills which expanded duty, lesser trained, health care professionals have been shown to be very capable of performing (Jaques & Perry, 1974; Komaroff, Sawayer, & Flatley, 1976; Pellegrino, 1974; Terris, 1973).

Even apart from the economic self interest motivations which operate to slow the diffusion of health service roles to other health care professionals, there are other reasons why physicians, dentists, and clinical psychologists are not likely to become heavily engaged in the practice of primary health care. One reason is the huge expense involved in educating these professionals in the mastery of a large and complex body of technical material and methods. It is simply not efficient to expect such persons to spend much time in the practice of services other than those for which they are superbly trained. The curative medical skills of these persons are tremendously important and basic to good health care. Others cannot perform many of the technical functions of these persons in safe or competent ways.[6]

The basic problem is that other important aspects of health care, particularly the primary prevention education and counseling of individuals, families, and friendship groups to maintain health, are largely ignored. Only 2 to 2.5% of

---

[6]Personal communication from Dr. Peter Bosomworth, Vice President, University of Kentucky Medical Center, to the author. This idea also frequently occurs in the medical and dental education literature.

the total national expenditure of $116 billion dollars on health is used for improving the organization and delivery of health services. The federal outlay for environmental health research, an important part of preventive health care, is only 0.25% of the total health care expenditure. Even less is expended on primary prevention education and counseling of individuals, families, and community groups. In addition private health insurance agencies, and other agencies such as Blue Cross and Blue Shield, Medicaid, and Medicare, are generally structured to pay millions for curative treatment but pennies or nothing for primary prevention activities involving education and counseling of persons (Ginzberg, 1976). For example, third party insurance payment for dental care will often pay for the removal of teeth and the replacing of the original teeth with false teeth, but will not pay for restoration of the original tooth or for education and counseling of the client in methods of oral hygiene which would prevent the loss of teeth in the first place (Fox, 1977).

Passive primary prevention measures such as water and sewage sanitation, control of food and drug quality, control of environmental toxins, and immunization against disease have been effectively practiced for a long time. However, these measures do not require much in the way of individual education and alteration of behavior patterns and life styles. Rather, they are imposed upon a rather passive population by a few informed and concerned consumer protection groups, subsequent policy and legislation, often hard won, and public health officials who carry out the mandate of subsequent laws and policy in such matters. However, primary prevention programs for reducing illness and premature death from excessive stress, obesity, poor parenting, drug abuse, and lack of exercise, all require the active commitment of the individual and his social group to change basic behavior patterns.

The whole system of health care in the United States lacks a primary prevention focus. The consequences of this is that primary prevention of the active type involved in the education and counseling of individuals in health maintenance is rare. The efforts which do occur in these areas are fragmented, uncoordinated, and battled over in terms of who should perform such roles. The lack of cooperation, distrust, and negative consequences for the client is a theme that runs consistently through the some 20 human service professions described in Interdisciplinary Approaches to Human Services (Vallentutti & Christopolos, 1977). This theme is common in much of the professional literature as well.

Surprisingly, counseling psychology, which is ideally suited to this psychoeducational role involved in primary health care education and counseling, is very infrequently mentioned in the health professions literature. The chapter on psychology in the Vallentutti and Christoplos anthology, although listing other divisions of psychology within the American Psychological Association, focuses on the roles of clinical psychology, a trait of many of the APA's publications and policies which are largely controlled by the clinical psychology division. In the medical and health professions literature, occassional reference is made to rehabilitation counseling, social work, and nursing in terms of educative and counseling roles. The discussion of "behavior modification", "motivational techniques", and methods of alteration of life styles is frequently uninformed and unaware of the complex body of theory, method, and research in the area of applied theories of human development, motivation, and learning to behavior change methodology, particularly in situations with normal and generally well functioning persons. This suggests that much of what is known about theories, methods, and techniques of effective counseling may not be included in much

current planning for the development of the emerging role of primary prevention health care educators/counselors.

It seems likely that much of this role will be assumed by nurses, particularly those in expanded duty roles such as nurse practioners in midwifery, family health care and related areas. Nursing has a tradition of primary care and a strong tradition of interest in the practice of education and counseling on an individual and small group basis. The nursing literature also seems to be more concerned and informed about the area of primary prevention counseling that many other health care professions. In addition, nursing has a tradition of educating many of its leaders to advanced levels in education, counseling psychology, sociology, and similar areas (Gordon-Davis & Strasser, 1977).

A moderate number of the students in counseling psychology at Kentucky have come from nursing backgrounds. There is some agreement that such persons often make excellent counseling psychologists.[7] Social workers, and students with master's degrees in clinical psychology also frequently enter counseling psychology programs as do former teachers and guidance counselors. Perhaps in the future more allied health professionals will also enter the counseling psychology area. Up to the present, most allied health professionals have been involved in educational psychology and curriculum and instruction programs leading to the acquisition of instructional technology and educational R&D skills, and not the skills of individual and group counseling.

It is also clear that the numbers and levels of primary health care counselors which are needed require persons trained at varying levels of expertise from paraprofessional to doctoral level persons. Many persons have noted that some of the most effective currently available primary health care counseling and education occurs in well organized and well operated lay groups such as weight watchers, planned parenthood, and single parent family groups. Pellegrino (1974) makes convincing arguments for having a wide array of such health care providers cutting across various levels of training, expertise, and responsibility. In addition to the studies of the effectiveness of expanded duty nurse practioners, who spend much more time than can or do physicians in listening to, talking with, making home visits and generally educating and teaching their clients, other studies have shown that lay persons are often effective in similar health care screening and education roles (Sackett, Chambers, MacPherson, Goldsmith, & McAuley, 1977; Sthal, Lawrie, Neill, & Kelley, 1977). It is disturbing that the American Psychological Association, particularly the division of Clinical Psychology, has established a policy of restricting the practice of psychology to doctoral level persons. It is encouraging that many counseling psychologists and counseling psychology professional organizations are in favor or teaching and disseminating much of their knowledge and methods to many other persons including lay helpers and persons trained below doctoral levels in community counseling (Ivey, 1976). Given proper education and training and under proper guidelines, an array of health care counselors across levels of training and experience can be a positive factor in increasing the quality and availability of preventive health care (Fochtman, 1976; Kosidlak, 1976; Michael & Wilkey, 1977; Power, 1976; Zimering, 1975).

---

[7]Personal communication from George Gazda and Dwight Auvenshine to the author.

History

The history of the current interest in and possible trend to provide funds for support of programs to prepare primary care health counselors and educators is rooted in the same social awareness and human rights movement of the last 20 years which is prominent in recent legislation in health care, education, housing, and employment. However, high minded principles of social action to insure fairness and justice often get "hung up and off track" in their implementation.

The current concern with primary health care services rises, in part, from obvious failures and criticisms of the legislation which fostered the health manpower and basic health research programs of the past decade. These programs were, after all, designed to serve the same ends as the current movement toward primary prevention health care. They too were intended to help make the quality of life better. Although there is agreement that the funds made available by this legislation have produced the world's highest level of technical competence and advancement in medical technology, there is also widespread agreement that this wonderful technology is increasingly more costly, restricted largely to only those persons who are near major medical centers, useful primarily only for those persons who are already ill and have lost their health, and not very useful in lowering the incidence of disability and premature death from the chronic diseases such as heart disorders, arthritis, hypertension, and cancer (Cooper, 1976; Ginzberg, 1976; Hamburg, D.A., 1977; Holland, Knobel & Parrish, 1976; Pellegrino, 1974; Terris, 1973). These and other scholars and researchers argue that all the money spent on health manpower training and basic research has done little to advance the general level of health in the United States. Ginzberg (1976) argues that the most effective preventive health care measures to be enacted since the mid 1960ies are not even health funding or health professions related. He cites increased employment with better pay for many persons over extended periods of time beginning in the 1960ies, as one major reason for improvement of health. When people are working and being paid for their work they are healthier in all ways. The second factor cited by Ginzberg was the imposition of the 55 mile per hour speed limit on the nation's highways in the 1970ies because of the energy shortage.

The current rhetoric in the literature of the health professions and the Public Health Service is that no further improvement in health or reduction in disease can occur other than through an alteration of destructive life styles and behavior patterns. The environmental preventive medicine, community medicine, Health Maintenance Organizations, and primary health care counseling center proposals and thinking are all rooted in this argument.

As Ivey (1976) notes, much of the thinking in the health professions literature is still curative oriented even within this supposed concern with primary prevention. The destructive life styles and behavior patterns of people are seen as things to be diagnosed, a treatment, in this case preventive screening and education, is to be prescribed and undertaken as therapy, and the ills of bad behavior are to be cured. This is probably why the term "behavior modification" is so frequently used. It is seen and used as a specific, concrete method by which to treat and cure the ills of persons "sick" in their behavior. Although behavior modification has frequently been improperly used in this manner, its development was and has become much more broadly based in a variety of methods

and theories, particularly cognitive psychology. The setting of personal goals and the instruction of the client in skills by which to reach those goals is seen as the proper application rather than "doing to" the client (Lazarus, 1977). In reviewing the literature, particularly in the dental and medical areas, a strong sense of the intention to use "behavior modification" to "do to" the improperly behaving patient and potential patient what must be done to keep him or her on his medical regime, restore health, and keep healthy by behaving him or herself in the first place, was apparent to the author. Perhaps this is due to a frequent association by medical personnel with clinical psychologists engaged mainly in short term "doing to" the patient in order to restore him or her to sufficient health to be released from the hospital. Educative and re-educative psychotherapy is little practiced in hospitals today. Patients are usually there for only three weeks or so and during that time their behavior difficulties are diagnosed, treated, usually with drugs and sometimes with behavioral therapy. The patients are released as soon as they are seen to be able to function well enough to do so. Many return for additional bouts of treatment in the future. There is generally little long term or organized psychotherapy designed to improve basic coping skills and to achieve goals desired by the patient[8] (Bassuk & Gersom, 1978). It is extremely doubtful that similar methods will work at all with non-institutionalized persons in need of assistance of modifying aspects of their lives and behaviors in their own homes and communities (Gordon, 1977; Wong, M.R., 1976).

If the operation of primary health care counseling centers adopt a "doing to" treatment mode it is doubtful that they will be effective. Their are strong traditions of separation of church and state ideals in the United States which prohibit the indoctrination of values and changes in life styles (Cole & Lacefield, 1976), particularly by imposed authoritative structures and federal intervention. Two recent developments in public education illustrate this nicely. One is the West Virginia textbook controversy and the earlier and well organized textbook criticism and opposition activity in Texas. The other was the national furor and opposition to the National Science Foundation, Man: A Course of Study 6th grade social studies curriculum and the subsequent action by a congressional committee withholding funds for and directing NSF to cease all of its involvement in curriculum development and dissemination.

In both cases, large groups of persons in many communities perceived that social scientists and federal bureaucrats were trying to influence and modify their children's behavior, particularly by teaching them about other values, life styles, and cultures and in stressing the ethical relativity and the functional rather than the absolute origin of human values. Two polemics which show the depth of fear, anger, and condemnation of the "social action" educational interventions are James C. Hefley's Textbooks on Trial, published in 1976 by Scripture Press, and Texas congressman John B. Conlan's article "The MACOS Controversy" in Social Education, 1975.[9]

---

[8]Personal observation communicated to the author by George Gazda.

[9]More rational accounts of what happened in these situations are found in Clark (1975) and Schaar (1975a, 1975b) as well as in accounts by the news media in this year in the fall months.

The back to basics movement in public education has been in large part, fueled by the unhappiness of those persons who believe the schools have violated the sacred separation of church and state. They argue that only basic skills of reading, writing, arithmetic and proper American traditional values should be instructed. It is doubtful whether these same groups will be supportive of a new behavioral engineering by health care professionals seeking to alter "unhealthy" and "destructive" life styles. It is also increasingly more difficult for public schools to incorporate and teach substantial programs of study about mental health, human relations skills, parenting, sexuality, planned parenthood, eating habits or any other area not seen as "basic" and value free. Groups of persons who are greatly threatened by such approaches are present in most communities, and often in sufficient number and with sufficient organization to prevent any programs from dealing with alteration of life styles, habits or attitudes except those traditionally allocated to public education (Cole & Harty, 1973).

One of the particulars cited by Norma Gabler, the founder and organizer of the citizens' fight against "immoral", "un-Christian", and "un-American" textbooks in Texas, concerned a preventive health care issue which would seem innocuous to most health care professionals. Mrs. Gabler is quoted as making the following statement before the Texas Commissioner of Education on September 18, 1973, during a hearing on the textbooks being adopted statewide.

> "This book suggests on page 151 that in the eyes of some, the garbage man is socially more important than the doctor because he removes filth that causes and spreads disease while the doctor only cures people after they get sick"(Hefley, 1976, p. 126).

The author goes on to explain how the Commissioner chastized the textbook representative for including such objectionable material in high school social studies.

Clearly, many Americans do not want the federal government spending money toward changing their attitudes, values and life styles. They also do not want federal money made available to fund programs to change the life styles of others. And they certainly do not want to pay their physician or dentist for education and counseling on how to preserve health, practice proper oral hygiene, and alter destructive life styles. When one goes to the physician or dentist, one expects concrete treatment to restore health (Fox, 1977). The same is true for clinical psychology and psychiatry where most relatives who seek help for a disturbed member of their family want to see a treatment applied to effect a cure of the person's "illness". As Gordon (1977) notes, the patient is often not ill at all, the problem being in the social interaction and behavior of the entire family and larger community which produces unpleasant and destructive ways of coping by many of those involved. Education of the entire group in learning new awareness and attitudes coupled with skill training in how to achieve greater interpersonal satisfaction are often the only effective means of treatment. The prevalence of such attitudes with respect to preventive health care and progressive medicine are common throughout our recent history (Terris, 1973). The alteration of life styles and changing of destructive behavior patterns, especially by social action programs sponsored by the federal

government, is no simple matter. Current thinking in this direction may be equally as unrealistic as was earlier thinking that the health manpower and basic health research would quickly translate into greatly improved health care.

Contributions

The main contribution of educational and counseling psychology to the practice of primary prevention health care may be in equipping health care providers with an educative and counseling outlook in terms of helping rather than "doing to" people. Comprehensive reviews of many empirical studies of counseling and psychotherapy have shown that they are generally highly effective (Olbrisch, 1977; Smith & Glass, 1977). Counseling of patients undergoing surgery and medical treatment has been found to be particularly effective in increasing the rate at which health is restored and the degree of cooperation of the patient in his or her treatment (Olbrisch, 1977).

The studies included in these reviews have nearly all occured in hospitals, clinics, or other curative medical settings. That is, the psychotherapy or counseling shown to be generally effective was being used to restore health and improve the effectiveness of physical curative medicine. The studies also show that a wide range of persons are involved in this administration of psychotherapy and counseling including nurses, social workers, counseling and clinical psychologists, various types of therapists, ministers, and physicians. At present there is no evidence that profession or status are significantly related to outcome of such counseling activity. Olbrisch (1977) concludes her excellent review by suggesting it is reasonable to have a wide array of helping professionals providing psychotherapy and counseling to consumers to maintain and improve health, if differences in profession and status are found not to significantly effect outcomes (p.774).

The studies in these reviews did not include counseling workshops dealing with obesity, smoking, parenting, and improving marriage and family relationships, and similar areas primarily because outcome measures used in such activities have usually been lacking or insufficient to the task of making inferences about effectiveness of the treatment. Control groups have also usually been lacking in such workshop and counseling groups. Generally such activities have been conceived as educative attempts by the persons who direct them, not as experiments or research. Carkhuff's (1972) earlier review of research which concluded that counseling in such settings is highly effective, has been recently criticized because of the problems with poor outcome measures, lack of control groups, and inadequate experimental designs (Lambert & DeJulio, 1977). Yet it is clear that many of these types of group counseling sessions are operated, often times with persons who are not yet gravely ill or in serious emotional trouble, but who seek to become more aware, informed, and remain well. More controlled studies of the effects of these primary prevention counseling activities need to be undertaken as is suggested by Lambert & DeJulio (1977). It seems likely that counseling and psychoeducative activity with these groups may also be shown more conclusively to be effective.

If a group of effective primary prevention health educators are to be

trained, it is important that they be instructed in a range of theory and methods dealing with human learning, development, motivation, and behavior change. An integration between educational and counseling psychology is needed as suggested by Sprinthall (1977), Wong (1976), and many others. It is probably unwise to approach the dissemination of counseling skills only as specific sets of particular techniques to be added on to the technical training of health care professionals which seems to be a common pattern (Fine & Therrien, 1977; Hornsby, Deneen, & Heid, 1975). Minimally, these persons need to be instructed in the use of several different specific methods of counseling and know at least a little about the basic theories and assumptions which underly each method. Less than this is irresponsible on the part of those charged with the education of future counselors in any area.

This does not mean that everyone wishing to practice counseling skills needs extensive training. It does mean that the training provided at whatever level ought to avoid promoting true believerism in any one method. Certainly there are many methodologies such as T.A., T.E.T., P.E.T. and reality therapy which can be easily learned and effectively practiced by many persons very quickly. Many lay persons have, indeed, learned the skills and methods of these and many similar methods. The danger is that such methods are often oversold, overgeneralized, and dogmatically applied with the expectation that great things must occur from their application. This can occur both in weekend workshops for health professionals and other persons or in master's and doctoral training programs for psychologists, counselors, and special education staff. It has no place in either.

In summary, there is a trend to provide primary prevention health care counseling through the services of counselors educated to various levels (McPheeters, 1977). The appropriate role for these persons is clearly the psychoeducative skills and methods of the counseling psychologist, quite distinct from the traditional role of clinical psychology. In the health professions literature, alteration of destructive behavior patterns are often discussed in uninformed ways which do not recognize the complexity of the process or the problems involved in the intervention into matters of life style by social action programs. The main contribution of educational and counseling psychology to this effort may be in broadening the prevailing medical model outlook of health care professionals to a counseling outlook. A second contribution may be in providing a more adequate grounding for health care professionals, especially those at paraprofessional and subdoctoral levels, in basic knowledge of the psychology of human development, learning, and motivation as this knowledge is applied through multiple methods and techniques of counseling to facilitate human personal development and coping.

CONCLUSION

There is little need to discuss further each of the ways in which educational psychologists, counseling psychologists, and educators have been and are becoming involved in the health provider professions. These matters have been discussed in each of the three major sections of the paper.

It is obvious that there has already been and will likely be even more involvement of educational and counseling psychology in the health care professions in the future, particularly in assisting in the training of health

care counselors practicing psychoeducation in a counseling psychology approach rather than psychotherapy as defined in the usual curative medical model. Colleges of education should continue to expand the relationships that have been actively established with them by colleges of allied health. Initially these relationships have been concerned with the improvement of allied health professions instruction by the application of psychological theory, educational methodology, and instructional technology. This has changed a significant proportion of the target population of upper division undergraduate and introductory graduate level courses in educational psychology at Kentucky, and perhaps at some other universities.

A possible fruitful area for further collaboration is in the area of cooperative planning and training of primary prevention health care counselors across a wide range of levels and helping profession discipline areas as suggested by Pellegrino (1974). It seems likely that the majority of persons needed for these roles will not be doctoral level professionals, but master's degree and baccalaureate level persons, often with prior training in some technical human service or general studies background and with additional training in counseling skills. Programs within counseling psychology should recognize this need and not move, as has clinical psychology, into the exclusion of all except doctoral level programs and practioners. It seems likely that upper division undergraduate and introductory level graduate courses in the psychology of human development and behavior, learning and motivation as well as courses in counseling theories and methods as typically offered in departments of educational psychology and counseling psychology may be useful in the training of health care counselors.

REFERENCES

Action programs for developing allied health educators. Battle Creek, Michigan: W. K. Kellogg Foundation, 1977.

Albee, G. W. & Joffe, J. M. Primary prevention of psychopathology. Volume I: The issues. Hanover, New Hampshire: University Press of New England. Proceedings of the First Vermont Conference on the Primary Prevention of Psychopathology, University of Vermont, Burlington, 1977.

Annual report of the W. K. Kellogg Foundation. Battle Creek Michigan: W. K. Kellogg Foundation, 1974.

Banikiotes, P. G. The training of counseling psychologists. The Counseling Psychologist, 1977, 7 (2), 23-26.

Bassuk, E. L. & Gerson, S. Deinstitutionalization and mental health services. Scientific American, 1978, 238 (2), 46-53.

Bessmer, M. A. A counseling psychologist? - Thanks, but no thanks. The Counseling Psychologist, 1977, 7 (2), 54-56.

Bowden, C. L. & Martin, H. W. A course on behavioral skills and the psychological aspects of dentistry. Journal of Dental Education, 1975, 39 (9), 617-621.

Buchen, P. H. & Tiedeman, M. L. Follow-up study - Success of AHIP Center graduates. In Action programs for developing allied health educators. Battle Creek, Michigan: W. K. Kellogg Foundation, 1977, 91-96.

Carkhuff, R. R. Rejoinder: What's it all about anyway? Some reflections on helping and human resource development models. Counseling Psychologist, 1972, 3, 79-87.

Chandler, T. Birthin' the safe way in Mississippi. Commitment, 1976, 1 (1), 23-27.

Clark, T. The West Virginia textbook controversy: A personal account. Social Education, 1975, 39 (4), 216-219.

Cole, H. P. & Harty, H. Generalized roles of students and community in planned educational change efforts. High School Journal, 1973, 57 (3) 93-100.

Cole, H. P. & Lacefield, W. E. Skill domains critical to the helping professors. Paper presented at the 84th annual convention of the American Psychological Association, Washington, D. C., September 3-7, 1976.

Cole, H. P. & Liddle, G. & Perritt, L. Department of educational psychology and counseling: characteristics, activities, and resources. Lexington, Kentucky: unpublished report to the University of Kentucky Graduate School, May 24, 1977.

Conlan, John B. (Congressman) The MACOS controversy. Social Education, 1975, 39(6), 388-392.

Cooper, J. Curriculum reforms in medical education. Journal of Dental Education, 1973, 37(1), 13-16.

Cooper, T. Editorial. Commitment, 1976, 1(1), 1.

Davis, A. J. & Underwood, P. Role, function, and decision making in community mental health. Nursing Research, 1976, 25 (4), 256-258.

DuVal, M. K. From the federal viewpoint. Journal of Allied Health, 1972, 1(1), 9-13.

Feuerstein, M. & Schwartz, G. E. Training in clinical psychophysiology: Present trends and future goals. American Psychologist, 1977, 32 (7), 560-567.

Fine, V. K. & Therrien, M. E. Empathy in the doctor-patient relationship: Skill training for medical students. Journal of Medical Education, 1977, 52(9), 752-757.

Fochtman, G. A. Therapeutic factors of the informal group. American Journal of Nursing, 1976, 76(2), 238-239.

Fox, L. A. Dentistry. In P. J. Valletutti & F. Christoplos Interdisciplinary approaches to human services. Baltimore, Maryland: University Park Press 1977, 61-80.

Friedland, G. Learning behaviors of a preadolescent with diabetes. American Journal of Nursing, 1976, 76(1), 59-61.

Gagne, R. M. The conditions of learning New York: Holt, Rinehart & Winston, 1977.

Gagne, R. M. & Briggs, L. J. Principles of instructional design. New York: Holt, Rinehart & Winston, 1974.

Gazda, G. M.; Walters, R. P.; & Childers, W. C. (editors) Human relations development - A mannual for health sciences. Boston: Allyn & Bacon, 1973.

Geertsman, R. H. A special tutorial for minority medical students: An account of a year's experience. Journal of Medical Education, 1977, 52(5), 396-403.

Ginzberg, E. The humane society. Journal of Allied Health, 1976, 5 (1), 15-21.

Gordon, T. Parent effectiveness training: A preventive program and its delivery system. In G. W. Albee & J. M. Joffe. Primary prevention of psychopathology Volume I: The issues. Hanover, New Hampshire: University Press of New England, 1977, 175-186.

Gordon-Davis, K. & Strasser, J. Nursing. In P. J. Valletutti & F. Cristoplos Interdisciplinary approaches to human services. Baltimore, Maryland: University Park Press, 1977, 155-172.

Grupenhoff, J. T. & Strickland, S.P. Federal laws: Health/Environment manpower. Washington, D.C.: The Science & Health Communications Group, 1972.

Hamburg, D. A. Recent development bearing upon national policy in health sciences. Journal of Medical Education, 1977, 52(1), 25-32.

Hamburg, J. (editor). Review of allied health education: 1. Lexington, Kentucky: The University Press of Kentucky, 1974.

Hamburg, J. (editor). Review of allied health education: 2. Lexington, Kentucky: The University Press of Kentucky, 1977.

Hartings, M. F. & Counte, M. A. An administrative and curricular model for behavioral science teaching. Journal of Medical Education, 1977, 52(10), 824-833.

Hatch, T. D. The changing federal role in allied health professions education. Journal of Allied Health, 1972, 1(1), 20-24.

Hefley, J. C. Textbooks on trial. Wheaton, Illinois: Victor Books, a division of Scripture Press, 1976.

Helder, H., Verbrugh, H. S., & deVries, M. J. Toward an holistic education in pathology and medicine. Journal of Medical Education, 1977, 52(8), 648-653.

Hersey, W. J. Jr. Social work. In P. J. Valletutti & F. Cristoplos Interdisciplinary approaches to human services. Baltimore, Maryland: University Park Press, 1977, 373-386.

Holland, M. G., Knobel, R.J. & Parrish, I. The health field concept: Its implications for educating health professionals. Journal of Allied Health, 1976, 5(1), 47-53.

Hornsby, L. J.; Dennen, L. J.; & Heid, D. W. Interpersonal communications skills development: A model for dentistry. Journal of Dental Education, 1975, 39(11), 728-732.

Ivey, A. E. Counseling psychology, the psychoeducator model and the future. The Counseling Psychologist, 1976, 6(3), 72-75.

Jacobs, S. S. & Zullo, T. G. Desired competencies and employment prospects for educational research personnel in schools of dental medicine. Journal of Dental Education, 1975, 39(12), 786-792.

Jaques, M. E. & Perry, J. W. Education in the health & helping professions. In J. Hamburg (editor) Review of allied health education: 1. Lexington, Kentucky: The University Press of Kentucky, 1974, 19-38.

Jones, B (committee chairman) Education for the allied health professions and services, Report of the Allied Health Professions Subcommittee of the National Advisory Health Council. Washington, D.C.: Government Printing Office, Public Health Service Publication, Number 1600, 1967.

Kerr, E. E. Vocational-technical education: A major contributor to health occupations education. In J. Hamburg (editor) Review of allied health education: 2. Lexington, Kentucky: The University Press of Kentucky, 1977, 54-76.

Kieslar, C. A. The training of psychiatrists and psychologists. Editorial. American Psychologist, 1977, 32(2), 107-108.

Kinsinger, R. E. What we don't need is a left carotid artery technician or a career-based response to the "new careers." Journal of Allied Health, 1973, 2(1), 10-15.

Komaroff, A. L., Sawayer, K., Flatley, M. & Browne, C. Nurse practitioner management of common respiratory and genitourinary infections using protocols. Nursing Research, 1976, 25(2), 84-89.

Kosidlak, J. G. Improving health care for troubled youths. American Journal of Nursing, 1976, 76(1), 95-97.

Krall, M. L. Guidelines for writing mental health treatment plans. American Journal of Nursing, 1976, 76(2), 234-235.

Lambert, M. J. & DeJulio, S. S. Outcome research in Carkhuff's human resource development training programs: Where is the donut? The Counseling Psychologist, 1977, 6(4), 79-86.

Lazarus, A. A. Has behavior therapy outlived its usefulness? American Psychologist, 1977, 32(7), 550-554.

Matarazzo, J. D., Lubin, B., & Nathan, R. G. Psychologists' membership on the medical staffs of university teaching hospitals. American Psychologist, 1978, 33(1), 23-29.

May, E. P. Counseling psychologists in general medical and surgical hospitals. The Counseling Psychologist, 1977, 7(2), 82-85.

McCally, M, Sorem, K., & Silverman, M. Interprofessional education of the new health practioner. Journal of Medical Education, 1977, 52(3), 177-182.

McPheeters, H. L. Mental health supportive personnel. In J. Hamburg (editor) Review of Allied Health Education: 2. Lexington, Kentucky: The University Press of Kentucky, 1977, 129-147.

Michael, E. & Wilkey, N. Gerontology. In P. J. Valletutti & F. Christopolos (editors) Interdisciplinary approaches to human services. Baltimore, Maryland: University Park Press, 1977, 93-109.

Myers, S. E. Operating dental auxiliaries. Journal of Dental Education, 1973, 37(2), 17-25.

Olbrisch, M. E. Psychotherapeutic interventions in physical health, effectiveness and economic efficiency. American Psychologist, 1977, 32(9), 761-777.

Payton, O. D. Validation of Gagne's conditions of learning for a portion of a course in allied health. Journal of Allied Health, 1973, 2(4), 187-194.

Pellegrino, E. D. Preventive Health care & the allied health professions. In J. Hamburg (editor) Review of allied health education: 1. Lexington, Kentucky: The University Press of Kentucky, 1974, 1-18.

Perry, H. B. An analysis of the professional performance of physician's assistants. Journal of Medical Education, 1977, 52(8), 639-647.

Petterson, E. Teaching statistics to dental students. Journal of Dental Education, 1973, 37(3), 34-39.

Power, P. W. The utilization ofthe family in the rehabilitation of the chronically ill patient. Some new perspectives for the allied health professions. Journal of Allied Health, 1976, 5(2), 42-51.

Rottkamp, B. C. A behavior modification approach to nursing therapeutics in body positioning of spinal cord-injured patients. Nursing Research , 1976, 25(3), 181-186.

Sabes, W. R., Eversole, L. R., & Rovin, S. Programmed textbook and computer-assisted instructional methods in teaching oral pathology. In T. A. Smith, S. Rovin, & E. W. Haley (editors) Individualized instruction in a flexible dental curriculum. San Francisco: U.S. Government Printing Office, DHEW Publication, Number (NIH) 73-437, 1973, 136-146.

Sackett, D. L.; Chambers, L. W.; MacPherson, A. S.; Goldsmith, C. H.; & McAuley, R. G. The development and application of indicies of health: General methods and a summary of results. American Journal of Public Health, 1977, 67(5), 423-428.

Saroff, S. A. Educational needs of dental faculty members. Journal of Dental Education, 1975, 39(7), 515-516.

Schaar, K. MACOS assailed: Congress debates curriculum. APA Monitor, 1975 a, 6(6), 1, 4, 10.

Schaar, K. MACOS: the controversy continues. APA Monitor, 1975 b, 6(7), 1, 5.

Smith, H. What do nurses do in America? American Journal of Nursing, 1976, 76(2), 278-280.

Smith, M. L. & Glass, G. V. Meta-analysis of psychotherapy outcome studies. American Psychologist, 1977, 32(9), 752-760.

Smith, T. Q. Rovin, S., Haley, E. W. (editors) Individualized instruction in a flexible dental curriculum. San Francisco: U.S. Government Printing Office, DHEW Publication Number (NIH) 73-437, 1973.

Sprinthall, N. A. Psychology and teacher education: New directions for school and counseling psychology. The Counseling Psychologist, 1977, 6(4), 53-56.

Stahl, S. M.; Lawrie, T.; Neill, P.; & Kelley, C. Motivational interventions in community hypertension screening. American Journal of Public Health, 1977, 67(4), 345-352.

Super, D. E. The identity crisis of counseling psychologists. The Counseling Psychologist, 1977, 7(2), 13-15.

Terris, M. Crisis and change in America's health system. American Journal of Public Health, 1973, 63(4), 313-318.

University of Kentucky Bulletin. Lexington, Kentucky: College of Allied Health Professions, 1977, 69(1).

Valletutti, P. J. & Christoplos, F. Interdisciplinary approaches to human services. Baltimore, Maryland: University Park Press, 1977.

Wellner, A. M. Psychology. In P. J. Valletutti & F. Christoplos Interdisciplinary Approaches to human services. Baltimore, Maryland: University Park Press, 1977, 337-356.

Wong, M. R. Different strokes: Models of drug abuse prevention education. Contemporary Educational Psychology, 1976, 1(3), 285-303.

Zimering, S. & McTernan, E. J. A new player on the allied health team: the clinical health educator. Journal of Allied Health, 1975, 5(1), 27-33.